

## Component 6 Set-net

# Background of Rayong Set-Net, Thailand

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Japanese type set-net fishing gear (Otoshi-ami) was introduced in Rayong Province, Thailand, on 2003 as a trial challenge by SEAFDEC (Southeast Asian Fisheries Development Center, Training Department) with funding support from the Government of Japan through the Japanese Trust Fund, for implementing the experinatal study since 2004 by EMDEC (Eastern Marine Fisheries Research and Development Center, Department of Fisheries, Thailand), in collaboration with Tokyo University of Marine Science and Technology (TUMSAT) funded by Japan Society for Promotion of Science (JSPS) and Himi City funded by JICA Grass-root Partnership Program.

The project aimed to introduce the set-net as a tool to and an alternative fishing gear to develop sustainable coastal fisheries management based in Rayong province. EMDEC and SEAFDEC have established the partnership for supporting fishers group to operate the set-net gear for the purpose to empower the fishing community with the eco-friendly gear that do not damage the fisheries resources, under a cooperation project named as “Introduction of set-net fishing to develop the sustainable coastal fisheries management”. The project was conducted on the collaborative activities with local fishers group, with technical and material support from Himi City, Japan.

The project site is located at Mae-Ram-Pueng Beach, Rayong province, Eastern Gulf of Thailand. The fishing gear has been designed with reference to the “Otoshi-ami” Japanese type set-net, which can be consisted of the leader net, playground and the chamber net for trapping fish through the slope net, installed at 3.0–4.8 km distance from the coast at a depth range of 11–13 m on sandy sea floor. Since 2006, two units operation system was started with the setting location coordinates as 12° 35' 36"N - 101° 20' 48" E, and 12° 34' 30"N - 101° 21' 18" E, respectively. The gear dimension is 45×140m in width and length with a 250 m long leader net as the initial design on 2003, and modified to be slimmer as 20×155 m main net design on 2004. The hauling operation is usually done in early morning, every two days, with Thai-style two wooden boats of 65–85 HP in-board engine without auxiliary machines in the beginning with 11–15 fishers by manual hauling of the chamber net to harvest the catches from the set-net. After introducing the larger FRP boat with the line hauler, the operation time and man-power can be successfully reduced. Due to the SW Monsoon effect, the fishing season was limited for 7–8 months from late September to early May.

Fishing efforts were 78–109 days/year or 14±2.6 days/month during the fishing season. The average daily catch was 211.5–368.6 kg with the marketing values of 5,037–11,480 baht in 2004–2014. Monthly average catch and value was 3,293.4–4,546.1 kg and 72,674–155,769 baht, for resulting into the yearly total as 12,193–31,801 kg and 508,711–1,088,591 baht.

According to the catch composition, over 72 species are listed, mainly pelagic migrating species with the dominances of *Selaroides leptolepis* (33.67%), *Amblygaster leiogaster* (15.61%) and Belonidae (10.00%). Length compositions of the 6 most economic species were 6.75-21.75 (12.45±0.17) cm for *Selaroides leptolepis*, 21.75-178.25 (66.22±48.82) cm for *Alectis indica*, 10.75-22.25 (17.35±0.25) cm for *Amblygaster leiogaster*, 6.75-29.75 (17.64±3.23) cm for *Atule mate*, 11.75-135.25 (66.22±10.16) cm Belonidae, and 4.75-25.25 (15.18±0.68) cm for *Rastrelliger brachysoma*.

Since the technology transfer of Japanese-type set-net at Rayong Province, the catch and marketing record has been accumulated with the periodical survey of length composition of major economic species, under the official permission on set-net research activity for 10 years, so as to establish the concept that Japanese-type set-net is appropriate tool to promote and strengthen the community-based management for the coastal fisheries and fishery resources restoration. Due to the termination of 10-years permission on 2014, the installation and operation of set-net was suspended for recent two years. Currently, the process to declare the fishing license area was requested to the relevant authorities by the fishers group.